



6CG8

TRIODE-PENTODE CONVERTER

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage 6.3 ac or dc volts

Current 0.45 amp

Direct Interelectrode Capacitances:

	Without External Shield	With External Shield ⁰	
Triode Unit:			
Grid to plate	1.5	1.5	μf
Grid to cathode & pentode grid No.3, and heater.	2.6	3	μf
Plate to cathode & pentode grid No.3, and heater.	0.05	1	μf
Pentode Unit:			
Grid No.1 to plate. . . .	0.03 max.	0.016 max.	μf
Grid No.1 to cathode & grid No.3, grid No.2, and heater. . . .	4.8	5	μf
Plate to cathode & grid No.3, grid No.2, and heater. . . .	0.9	1.6	μf
Pentode grid No.1 to triode plate.	0.05 max.	0.04 max.	μf
Pentode plate to triode plate.	0.05 max.	0.007 max.	μf
Heater to cathode	5.5	5.5 [•]	μf

Characteristics:

	Triode Unit	Pentode Unit	
Plate-Supply Voltage.	100	250	volts
Grid-No.2 Supply Voltage. . . .	—	150	volts
Cathode Resistor.	100	200	ohms
Amplification Factor.	40	—	
Plate Resistance (Approx.). . .	6900	750000	ohms
Transconductance.	5800	4600	μmhos
Plate Current	8.5	7.7	ma
Grid-No.2 Current	—	1.6	ma
Grid-No.1 Voltage (Approx.) . .			
for plate current of			
10 μamp	-10	-10	volts

⁰ with external shield JETEC No.315 connected to cathode except as noted.[•] with external shield JETEC No.315 connected to ground.

6CG8



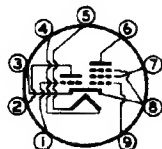
6CG8

TRIODE-PENTODE CONVERTER

Mechanical:

Mounting Position. Any
 Maximum Overall Length. 2-3/16"
 Maximum Seated Length. 1-15/16"
 Length, Base Seat to Bulb Top (Excluding tip). . 1-9/16" \pm 3/32"
 Maximum Diameter. 7/8"
 Dimensional Outline. See General Section
 Bulb. T-6-1/2
 Base. Small-Button Noval 9-Pin (JETEC No. E9-1)
 Basing Designation for BOTTOM VIEW. 9GF

Pin 1-Triode Grid
 Pin 2-Triode Plate
 Pin 3-Cathode
 Pin 4-Heater
 Pin 5-Heater
 Pin 6-Pentode Plate



Pin 7-Pentode
 Grid No. 2
 Pin 8-Pentode
 Grid No. 3,
 Cathode
 Pin 9-Pentode
 Grid No. 1

CONVERTER SERVICE

Maximum Ratings, Design-Center Values:

	Triode Unit as Osc.	Pentode Unit as Mixer	
PLATE VOLTAGE.	250 max.	250 max.	volts
GRID-No. 2 (SCREEN-GRID) SUPPLY VOLTAGE.	-	250 max.	volts
GRID-No. 2 VOLTAGE.	-	See Grid-No. 2 Input	

Rating Chart at front of Receiving Tube Section

GRID-No. 1 (CONTROL-GRID) VOLTAGE:			
Negative bias value. . .	40 max.	40 max.	volts
Positive bias value. . .	0 max.	0 max.	volts
PLATE DISSIPATION.	1.5 max.	2 max.	watts

GRID-No. 2 INPUT:

For grid-No. 2 voltages
 up to 150 volts. - 0.5 max. watt

For grid-No. 2 voltages
 between 150 and
 300 volts. - See Grid-No. 2 Input

Rating Chart at front of Receiving Tube Section

GRID-No. 1 INPUT.	0.5 max.	-	watt
---------------------------	----------	---	------

PEAK HEATER-CATHODE

VOLTAGE:

Heater negative with respect to cathode. . .	200 max.	200 max.	volts
Heater positive with respect to cathode. . .	200 [▲] max.	200 [▲] max.	volts

[▲] The dc component must not exceed 100 volts.



Prostate
10/64

6CG8

TRIODE-PENTODE CONVERTER

Typical Operation:

	Triode Unit as 250-Mc Osc.*	Pentode Unit as Mixer*	
Plate Voltage.	150	150	volts
Grid-No.2 Voltage.	-	150	volts
Mixer Grid-No.1 Supply Voltage	-	-3.5	volts
Oscillator Voltage (rms) at Mixer Grid No.1	-	2.6	volts
Mixer Grid-No.1-Circuit Resistance	-	120000	ohms
Oscillator Grid Resistor .	2700	-	ohms
Conversion Trans- conductance.	-	2100	μ mhos
Plate Current.	13	6.2	ma
Grid-No.2 Current.	-	1.8	ma
Grid Current	3.6	-	ma
Grid-No.1 Current.	-	2	μ amp
Oscillator Power Output (Approx.)	0.5	-	watt

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

- * In TV or FM receivers, it is generally desirable to operate the oscillator with less power input than shown in the tabulated data in order to avoid over-excitation and excessive oscillator radiation.

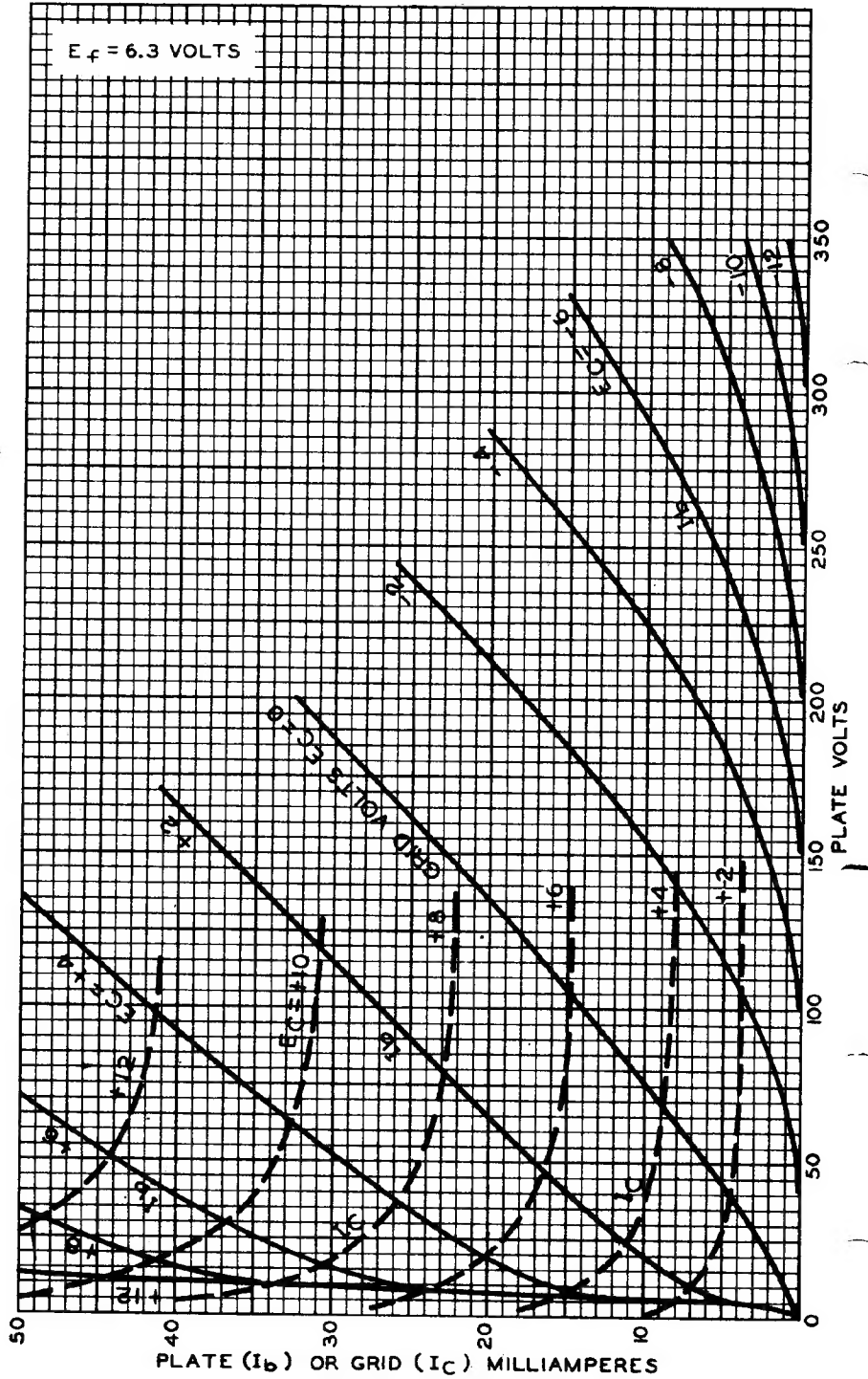
* With separate excitation and triode unit connected to ground.

6CG8



6CG8

AVERAGE CHARACTERISTICS TRIODE UNIT



TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7531

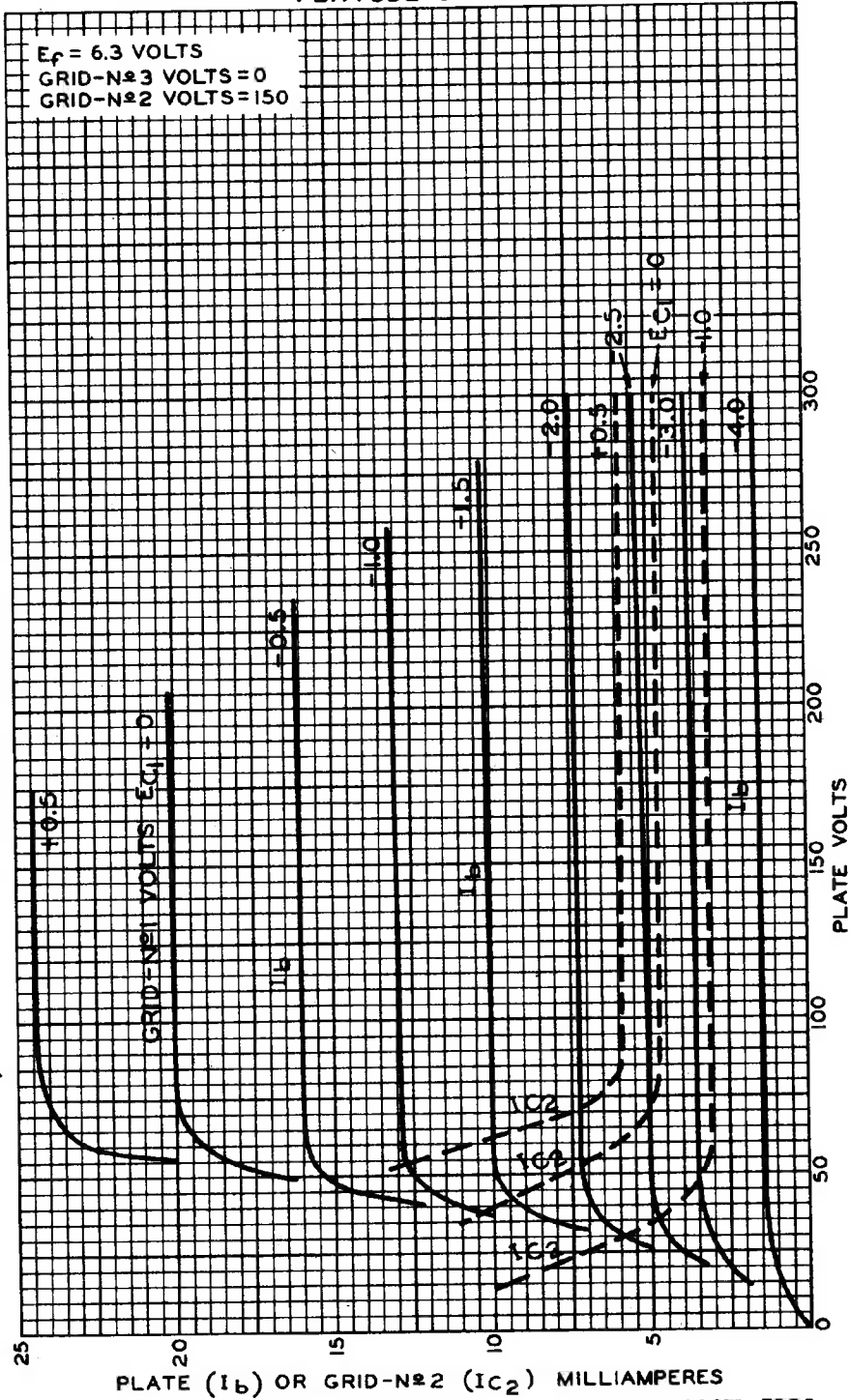


6CG8

absolute
10/64

6CG8

AVERAGE CHARACTERISTICS PENTODE UNIT



TUBE DIVISION

92CM-7532

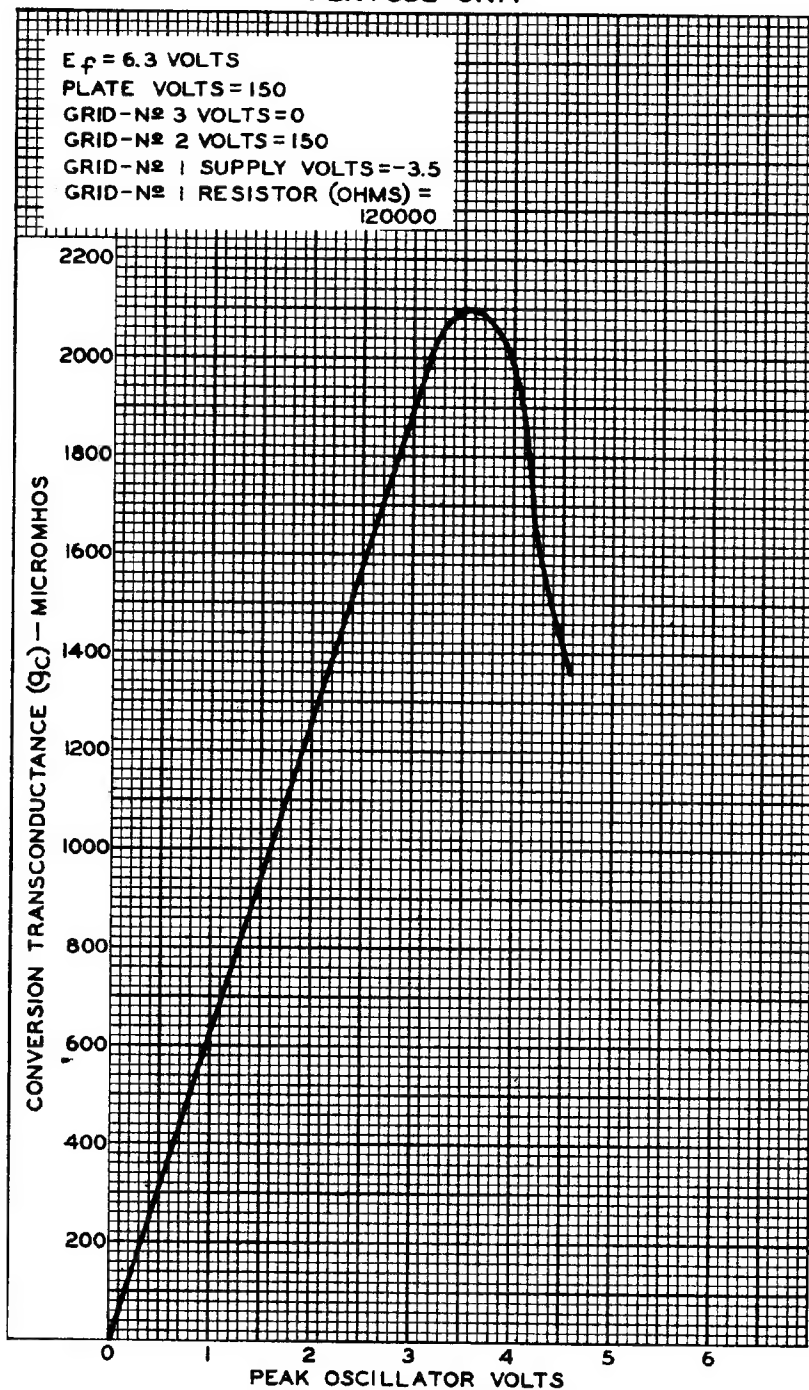
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

6CG8



6CG8

OPERATION CHARACTERISTIC
WITH SEPARATE OSCILLATOR EXCITATION
PENTODE UNIT



TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7546R1



Arb. 10/64

6CG8

OPERATION CHARACTERISTICS
WITH SEPARATE OSCILLATOR EXCITATION
PENTODE UNIT

